

1 CLAIMS

2 I claim as my invention:

3 1. A performance enhancing shoe component for a soccer shoe,

4 the soccer shoe comprising a shoe upper and at least a sole secured to the upper such that  
5 a wearer's foot is positioned within the upper and above the sole, the shoe having a front and a  
6 periphery of the front, a middle, a back, and a heel;

7 the component comprising one or more preformed objects embedded in an outsole body,  
8 or the component constituting the entire outsole body, the component causing a soccer shoe in  
9 which the component forms a part to operate to deflect, without permanent deformation, in  
10 response to an applied load creating a deflecting stress and then to return to its original shape  
11 upon removal of the applied load causing the deflecting stress, the component operating to  
12 absorb, redistribute and store the energy of localized loads applied thereto through deflection  
13 and, by returning to its original shape, to return energy to an object struck by the shoe in such  
14 manner so as to impart to the struck object applying the load some portion of the energy  
15 produced by the applied load;

16 the component extending around the periphery of the front of the shoe and extending  
17 longitudinally from the front of the shoe towards the back of the shoe, at least to about the  
18 middle of the shoe.

19 2. The performance enhancing shoe component of claim 1, wherein the component  
20 extends to proximate the heel of the shoe.

21 3. The performance enhancing shoe component of claims 1 or 2, wherein the  
22 component is made of only one type of material.

23 4. The performance enhancing shoe component of claims 1 or 2, wherein the  
24 component is made of a composite of one or more types of material.

25 5. The performance enhancing shoe component of claims 1 or 2, wherein the  
26 component is made of a laminate of one or more types of material.

1           6.       The performance enhancing shoe component of any one of claims 1-5, wherein  
2 the component has one or more shapes in one or more locations within the outsole body  
3 depending upon the particular performance enhancing characteristics desired by the wearer.

4           7.       A performance enhancing shoe component for a soccer shoe,  
5 the soccer shoe comprising a shoe upper, a sole secured to the upper such that a wearer's  
6 foot is positioned within the upper and above the sole, and a midsole which is located between  
7 the wearer's foot and the sole, the shoe having a front and a periphery of the front, a middle, a  
8 back, and a heel;

9 the component including one or more preformed objects embedded in the midsole , or the  
10 component comprising the midsole, the component causing a soccer shoe in which the  
11 component forms a part to operate to deflect, without permanent deformation, in response to an  
12 applied load creating a deflecting stress and then to return to its original shape upon removal of  
13 the applied load causing the deflecting stress, the component operating to absorb, redistribute  
14 and store the energy of localized loads applied thereto through deflection and, by returning to its  
15 original shape, to return energy to an object struck by the shoe in such manner so as to impart to  
16 the struck object applying the load some portion of the energy produced by the applied load;

17 the component extending around the periphery of the front of the shoe and extending  
18 longitudinally from the front of the shoe towards the back of the shoe, at least to about the  
19 middle of the shoe.

20           8.       The performance enhancing shoe component of claim 7, wherein the component  
21 extends to proximate the heel of the shoe.

22           9.       The performance enhancing shoe component of claims 7 or 8, wherein the  
23 component is added as part of the manufacturing process of a new shoe.

24           10.      The performance enhancing shoe component of claims 7, 8, or 9, wherein the  
25 component is made of only one type of material.

26           11.      The performance enhancing shoe component of claims 7, 8, or 9, wherein the  
27 component is made of a composite of one or more types of material.

1           12.     The performance enhancing shoe component of claims 7, 8, or 9, wherein the  
2 component is made of a laminate of one or more types of material.

3           13.     The performance enhancing shoe component of any one of claims 7-12, wherein  
4 the component has one or more shapes in one or more locations within the outsole body  
5 depending upon the particular performance enhancing characteristics desired by the wearer.

6           14.     A performance enhancing shoe insert for a soccer shoe,  
7 the soccer shoe comprising a shoe upper and at least a sole secured to the upper such that  
8 a wearer's foot is positioned within the upper and above the sole, the shoe having a front and a  
9 periphery of the front, a middle, a back, and a heel;

10 the insert comprising one or more preformed objects embedded in an insole, or the  
11 component constituting the entire insole, the insert causing a soccer shoe in which the insert  
12 forms a part to operate to deflect, without permanent deformation, in response to an applied load  
13 creating a deflecting stress and then to return to its original shape upon removal of the applied  
14 load causing the deflecting stress, the insert operating to absorb, redistribute and store the energy  
15 of localized loads applied thereto through deflection and, by returning to its original shape, to  
16 return energy to an object struck by the shoe in such manner so as to impart to the struck object  
17 applying the load some portion of the energy produced by the applied load;

18 the insert extending around the periphery of the front of the shoe and extending  
19 longitudinally from the front of the shoe towards the back of the shoe, at least to about the  
20 middle of the shoe.

21           15.     The performance enhancing shoe insert of claim 14, wherein the insert extends to  
22 proximate the heel of the shoe.

23           16.     The performance enhancing shoe insert of claims 14 or 15, wherein the insert is  
24 added after the shoe has been manufactured and sold.

25           17.     The performance enhancing shoe component of claims 14, 15, or 16, wherein the  
26 component is made of only one type of material.

27           18.     The performance enhancing shoe component of claims 14, 15, or 16, wherein the  
28 component is made of a composite of one or more types of material.

19. The performance enhancing shoe component of claims 14, 15, or 16, wherein the component is made of a laminate of one or more types of material.

20. The performance enhancing shoe component of any one of claims 14-19, wherein the component has one or more shapes in one or more locations within the outsole body depending upon the particular performance enhancing characteristics desired by the wearer.

21. A soccer shoe including the insert of any one of claims 14-20.

22. A soccer shoe including the component of any one of claims 1-13.

23. The inventions substantially as shown and described herein.